

Prescription and OTC Drug Use Among Transportation Operators

Douglas L. Allen

Alcohol and Drug Program Management

USDOT/FR

FRA Post-Accident Test History

YEAR	# EVENTS	# TESTED	# POSITIVES
1987	179	770	42 (39 D – 3A)
1988	178	682	41 (38D – 3A)
1989	161	607	34 (18 D – 6A)
1990	149	534	20 (10 D – 1A)
1991	157	552	8 (6D – 2A)
1992	109	332	7 (6D – 1A)
1993	128	403	8 (6D – 2A)
1994	115	294	7 (5D – 2A)
1995	82	225	2 (2D – 0A)
1996	73	197	1 (1D – 0A)
1997	86	240	3 (1D – 2A)
1998	68	153	4 (4D – 0A)
1999	80	200	2 (2D – 0A)
2000	91	255	5 (5D – 0A)
2001	62	155	3 (3D – 0A)

Railroad Post-Accident Testing

- 1,717 events in last 14 years
- 5,589 railroad employees tested for drug classes
- Specimens taken:
 - Urine
 - Blood
 - Tissue (fatalities)

Review of Cases with Positive Drug Test Results

- 1996 – 2001, 460 qualifying events
- 1,200 employees tested
- Results
 - 16 Cases involving non-authorized drug use (1.3 %)
 - 27 Cases involving authorized drug use (2.2 %)

Cases Involving Unauthorized Drug Use

- Illegal Drugs (12)
 - Marijuana, 8 cases (.67%)
 - Cocaine, 4 cases (.33 %)
- Legal Drugs (4)
 - Amphetamine and/or methamphetamine, 2 cases (.17 %)
 - Barbiturates, 2 cases (.17 %)

Cases Involving Authorized Drug Use

- Authorized Prescriptions Used while on-duty, 8 cases (0.7%)
 - Benzodiazepine, 4 cases
 - Amphetamine, 2 cases
 - Codeine, 2 cases
- Medications Administered after the event, 19 cases (1.6 %)
 - Morphine, 16 cases
 - Codeine, 1 case
 - Benzodiazepines/Codeine, 1 case
 - Pentobarbital (barbiturate), 1 case

FAA Post-Crash Autopsy Results, General Aviation Pilots

- CAMI Test Results – 1994-98, Fatal Crashes
- 1683 Pilots tested for at least 58 different drugs
- OTC's present – 301 (18%)
- Prescription Drugs present – 240 (14%)
- Dose levels not reported, could be insignificant and/or non-impairing
- No linkages to accident cause noted

Conclusions

- Rail

- Only 4 Cases (0.33%) involved unauthorized use of OTC/prescription drugs
- Review of cases indicated other factors were principal cause of event

- General Aviation

- Higher prevalence due, in part, to larger sample of drugs analyzed
- Private vs. commercial operators



Announcing the Crew Alertness Campaign...

It's no mystery that people within the marine industry become tired and fatigued from working long hours in harsh environments. Unusual schedules and ever changing work environments are enough to make anyone exhausted. But how can you effectively deal with this problem?

U.S. Coast Guard Headquarters and the USCG Research and Development Center are working closely with the marine industry in developing an approach for managing factors that affect crew alertness. This non-regulatory approach is designed for both shipboard and shore-side personnel, and it is tailored specifically for the unique marine operational environment.

A critical step in this approach is increasing awareness and educating mariners about crew alertness. The Crew Alertness Campaign will provide the means for sharing information and increasing understanding of the issues, while fostering open communication between the Coast Guard and Industry. Some examples of the concepts that will be shared include:

- (1) Getting good sleep & rest
- (2) Shifting watch schedules properly
- (3) Working at night, and
- (4) Dealing with personal issues

Educational materials and workshops are being developed, so look for them in April 2001. They will be available from various maritime associations and organizations, as well as from local Marine Safety Offices.

You can preview the Campaign website at:
<http://www.uscg.mil/hq/g-m/cac>

For further details contact:

US. Coast Guard Headquarters (G-MSE-1)
Human Element and Ship Design Division
2100 Second Street, SW
Washington, DC 20593
(202)267-2997
Email:cac@comdt.uscg.mil

U.S. Department
of Transportation

United States
Coast Guard



Commandant
United States Coast Guard

2100 Second Street, S.W.
Washington, DC 20593-0001
Staff Symbol: (G-MSE-1)
Phone: (202) 267-2997
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16720

Dear Sir or Madam:

The marine industry is faced with a continuous challenge: how to maintain crew endurance. Endurance is affected by many factors. An example is fatigue, which has been a contributing factor in major casualties like EXXON VALDEZ, HERALD OF FREE ENTERPRISE, and the recent M/V CHINOOK allision with a bridge in Seattle. Other endurance risk factors exist, such as harsh working conditions, 24-hour work schedules, and stress. In attacking this problem, we must educate ourselves and mariners on how to effectively manage these risk factors.

A team effort between our R&D Center, the Office of Safety and Environmental Health (G-WKS), and the Human Element and Ship Design Division (G-MSE-1) has provided a promising solution to the endurance challenge. The program provides a process to identify and manage the many crew endurance risk factors. Called Crew Endurance Management, it involves much more than addressing just sleep. It is an all-encompassing approach that includes fatigue, environmental factors, work and rest schedules, caffeine use, and nutrition, just to mention a few.

The Crew Alertness Campaign is our first step in implementing the Crew Endurance Management program throughout the industry. The campaign will focus on increasing awareness and education on endurance risk factors for both Coast Guard and industry members.

I have enclosed a flyer announcing the Crew Alertness Campaign, which is only designed to create interest and awareness. One other development has been the production of a "Stay Alert For Safety" brochure created through our partnership with the American Waterways Operators. I would encourage you to distribute this information among your people and your mariners and to seek out opportunities to educate yourself on this issue.

I thank you for your continued support with Prevention Through People initiatives such as this one, and for your overall commitment to safety. For questions or more information, please contact the Human Element and Ship Design Division (G-MSE-1), at (202) 267-2997.

Sincerely,

R. C. NORTH
Rear Admiral, U.S. Coast Guard

Encl: (1) Crew Alertness Campaign flyer
(2) "Stay Alert for Safety" brochure

Welcome Aboard!

It's no mystery that people within the marine industry become tired and fatigued from working long hours in harsh environments. Unusual schedules and ever changing work environments are enough to make anyone exhausted. But how can you effectively deal with this problem?

This site has been created to help you, as a member of the maritime industry, better understand crew alertness. There are many things we will be doing with the site. Currently, we are developing a web-based training program for Crew Alertness. You will be able to learn all about the risk factors and how they affect your performance.

In the meantime please go through [an introductory slide show](#), the [campaign flyer](#), and read a [letter](#) from RADM Robert C. North.

Please give us your feedback on the site and provide suggestions. We will make every effort to include those things that you would like to see. [Send us an e-mail!](#)

The site is broken into four major areas:

Up & At Em'

It's the place where it all begins. You will find a brief presentation on crew alertness and endurance factors. After viewing this presentation, you will have a better idea of all of the issues and how they are being addressed.

Logbook

This portion of the website will keep you abreast of when and where seminars, conferences and workshops will be conducted, by providing you with a calendar of events related to crew alertness.

Navigation

Navigating a vessel requires information and understanding in order to reach your destination. This section contains all of the information and materials you will need to educate yourself on crew alertness. Everything from e-copies of brochures to videos to web-based training will all be provided here.

Galley Chat

The website will contain a forum where people can share their experiences and ask questions about crew alertness. We are very excited about this interaction, and look forward to learning from one another and obtaining sea stories that will lead to lessons learned.

**First-timer?
Start
here!**



We encourage those of you visiting our site for the first time to take a few minutes and run through our [slide show](#). C'mon, let us entertain you!



**Campaign
Flyer**

RADM Robert C. North, the Assistant Commandant for Marine Safety and Environmental Protection, recently wrote a letter and released a flyer about the campaign. These were mailed out to over 400 individual addresses! If you did not receive a mailing, you can read them here.

[Campaign Flyer](#) | [Letter](#)

**Grab a
cup 'o
joe &
let's
talk!**



The floor is now
open! Share some
of your
experiences, check
out someone else's
close call, or come
on by just to say
"Hi!"



Marine Safety Information Bulletin 04-01

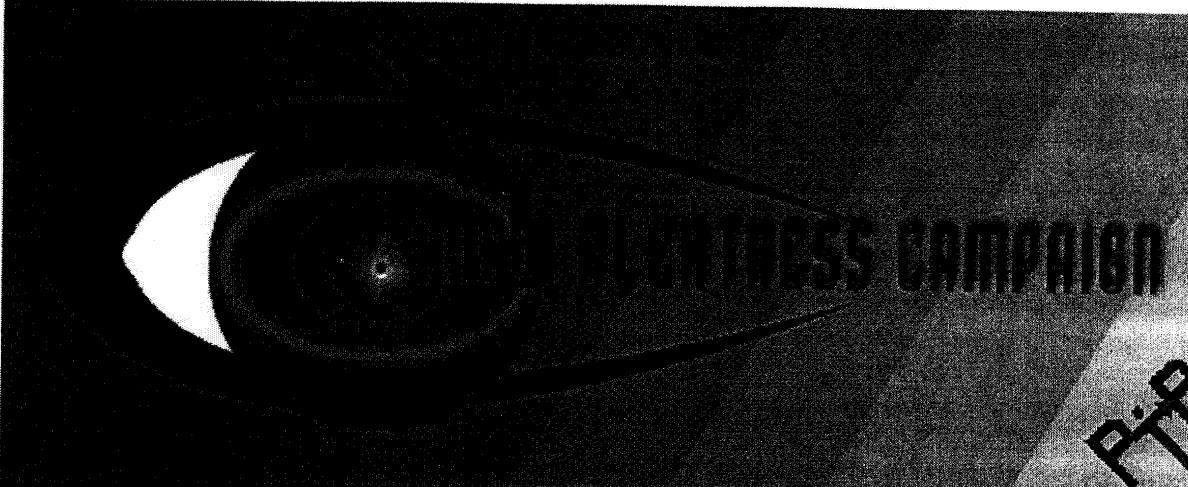
Crew Alertness Campaign

February 01, 2001

1. On December 13, 2000, the Coast Guard and marine industry developed an approach for managing factors that affect crew alertness. The Crew Alertness Campaign will provide the means for sharing information and an increased understanding of the issues faced by those who work within the marine industry. The Crew Alertness Campaign is the first step in implementing the Crew Endurance Management program throughout the industry. The Campaign focuses on awareness and education on endurance risk factors for both the Coast Guard and industry members.
2. The Campaign's official rollout date is April 2001. Some examples of the concepts that will be shared include: (1) Getting good sleep & rest, (2) Shifting watch schedules properly, (3) Working at night, and (4) Dealing with personal issues. In attacking this problem, the marine industry must educate themselves and mariners on how to effectively manage these risk factors. The marine industry is an around-the-clock business, which includes harsh working conditions, 24-hour work schedules, and stress. Part of working safely means staying alert!
3. For questions, and a flyer that introduces the Crew Alertness Campaign, please contact the Human Element and Ship Design Division (G-MSE-1), at (202) 267-2997. You may also refer to the Campaign's website at www.uscg.mil/hq/g-m/cac.

Wayne D. Gusman
Captain, U. S. Coast Guard
Officer in Charge
Marine Inspection

MSO Houston-Galveston, P.O. Box 446, Galena Park, TX 77547-0446,



WITNESS CAMPAIGN

P.P.P.

Marine Safety and Environmental Protection (G-M)
LT Scott Calhoun (G-MSE-1)

and

USCG Research and Development Center



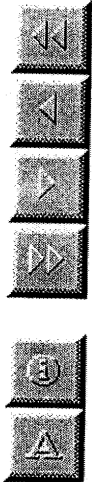
Slide 1 of 7

Crew Endurance Management Program

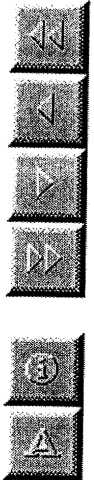
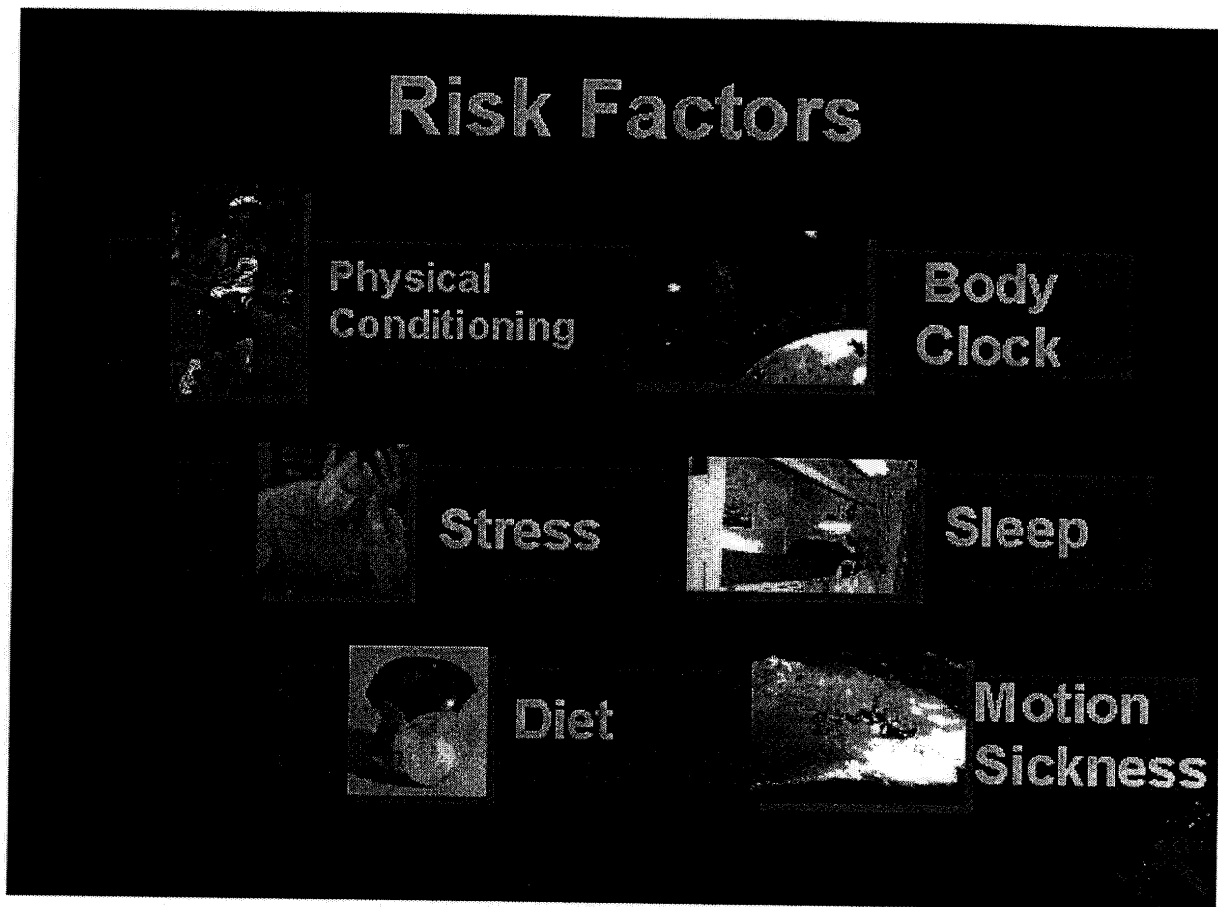
- Reduces the Incidence of Fatigue
- Increases Mariner's Alertness
- Operationalizes Prevention Through People

Key Program Elements

- Education on risk factors
- Milestone in 6-year process of R&D



Slide 2 of 7

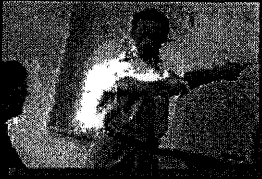


Slide 3 of 7


CREW ENDURANCE MANAGEMENT

Success depends on...


Coordinated Planning



Supporting Infrastructure




Understanding Risk Factors...




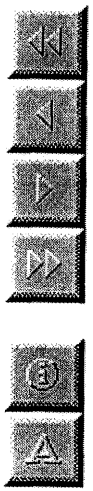
And How To Manage Them

Company Management Support



Coordination with Unions





Slide 4 of 7



Featured April 24th:
MARINE LOG
Conference
on the Human Element

Objectives

Increase Awareness

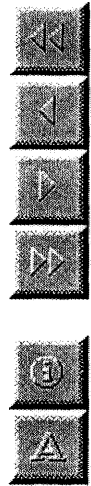
Support Industry Education Programs

Open Communication and Discussion

Distribute Educational Materials

Website (Web-based learning)

Computer-Based Training



Slide 5 of 7

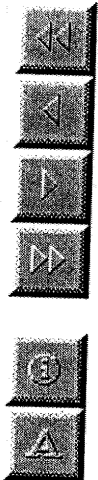


Success Depends On Champions and Partners

- Private Industry
- Local Government
- Federal Safety Advisory Committees
- MSO Field Units

Support External Activities

- Provide Materials and Assistance for
Conferences, Seminars, and Workshops



Slide 6 of 7

U.S. Department
of Transportation

United States
Coast Guard



version 11-98

Commanding Officer
United States Coast Guard
National Maritime Center

4200 Wilson Blvd. Suite 510
Arlington, VA 22203-1804
Staff Symbol: NMC-4
Phone: (703) 235-0018
FAX: (703) 235-1062

16721
NMC Policy Ltr No. 11-98
July 30, 1998

From: Commanding Officer, National Maritime Center

To: Distribution

Subj: MEDICAL STANDARDS FOR ENTRY LEVEL RATINGS

Ref: (a) Title 46, Code of Federal Regulations (CFR), Section 12.02-17
(b) Navigation and Vessel Inspection Circular 2-98

1. Reference (a) requires that an applicant for entry level ratings valid for service on a seagoing vessel of 200 or more gross register tons (domestic tonnage) (GRT) "provide a document issued by a qualified medical practitioner attesting the applicant's medical fitness to perform the functions for which the document is issued." This policy letter provides guidance for acceptance of such documents. Reference (b) sets forth the medical fitness standards for an applicant for entry level ratings. These standards apply to all applicants for original issuance or renewal of any entry level rating.

2. An applicant for entry level ratings who will be employed only on non-seagoing vessels, i.e., vessels that do not go beyond the Boundary Line as defined in 46 CFR Part 7, is not required to provide medical certification. If such an applicant otherwise qualifies for issue of a merchant mariner's document (MMD), the MMD shall be endorsed with a limitation valid for service only on Great Lakes and Inland waters. A typical endorsement would read "Ordinary seaman, wiper, steward's department (GL & Inland waters only)."

3. An applicant for entry level ratings who will be employed on seagoing vessels over 200 GRT shall provide a medical report document that meets the following requirements and attests to his or her medical qualifications:

a. The medical report document may consist of form CG-719K, but its use is not required. If this form is used, only the portions of the form identifying the applicant must be completed. If letterhead stationery is used for the report, the applicant must be positively identified in the report by name, social security number, height, weight, color of hair and eyes, and any distinguishing characteristics;

b. The following shall be typed or written on either the form CG-719K or the letter: "The applicant has the strength, agility, and flexibility to perform the activities stated in paragraph 4 of Navigation and Vessel Inspection Circular No. 2-98;"

c. The report of medical qualifications, form CG-719K or letter report, shall be signed by a licensed physician, licensed physician's assistant, or a licensed nurse practitioner; and,

d. An ordinary seaman who applies for a form issued in accordance with the International Convention on Standards of Training, Certification, and

MERCHANT MARINE PERSONNEL PHYSICAL EXAMINATION REPORT

PRIVACY ACT STATEMENT

As required by 5 USC 552a(e)(3), the following information is provided when supplying personal information to the U. S. Coast Guard.

1. Authority for solicitation of the information: 46 USC 2104(a), 7101(c)-(e), 7308(a)(4), 7313(c)(3) 7317(a), 8703(b), 9102(a)(5), (See 46 CFR subparts and paragraphs 10.205(d), 10.207(e), 10.209(d), 12.05-5, 12.20-3)
2. Principal purposes for which the information is used:
 - (1) To determine if an applicant is physically capable of performing shipboard duties.
 - (2) To ensure that the applicant's physical is conducted by a duly licensed physician/physician's assistant and to verify the information as needed.
3. The routine uses which may be made of this information:
 - (1) This form becomes part of the applicant's file as documentary evidence that the regulatory physical requirement has been satisfied and the applicant is physically competent to hold a merchant marine license or document.
 - (2) This information becomes put of the total license or document file and is subject to review by federal agency casualty investigators.
4. Disclosure of this information is voluntary, but failure to provide this information will result in non-issuance of a license or merchant mariner's document.

INSTRUCTIONS FOR THE PHYSICIAN

The United States Code requires a physical examination to determine that all holders of Coast Guard Issued Licenses and Merchant Mariner's Documents are of sound health with no physical limitations that would hinder or prevent performance of duties. In general, all mariners must be capable of working in cramped spaces on rolling vessels. They must be able to climb steep stairs or vertical ladders. In an emergency such as a vessel fire or flooding, the mariner must be able to fully participate in the firefighting and lifesaving of passengers and crewmembers. In addition, mariners must be physically able to stand an alert 4 to 8 hour watch. To do this, they must be free from any sudden onset of a medical condition which would affect their watchkeeping abilities.

Detailed guidelines on potentially disqualifying medical conditions may be obtained from any U. S. Coast Guard Regional Examination Center (NVIC 2-98) or by calling Coast Guard National Maritime Center (NMC-4C), at 703-235-8483. Examples of impairment that could lead to disqualification include: impaired vision, color vision or hearing; poorly controlled diabetes; multiple or recent myocardial infarctions; psychiatric disorders; and convulsive disorders. In short, any condition that poses an inordinate risk of sudden incapacitation or debilitating complication, and any condition requiring medication that impairs judgment or reaction time are potentially disqualifying and will require a detailed evaluation.

The Coast Guard will use this physical evaluation to determine the applicants eligibility to hold a license or document.

1. Name (Last, First, MI)				2. Social Security Number	
3. Height (Inches)	4. Weight (pounds)	5. Eye Color	6. Hair Color	7. Distinguishing Marks	
8. Blood Pressure Systolic Diastolic			9. Pulse (resting) _____ <input type="checkbox"/> Regular <input type="checkbox"/> Irregular		
10a Vision: Uncorr. Right 20/ Corr. to 20/ Uncorr. Left 20/ Corr. to 20/			10b. Field of Vision: _____ Degrees <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal		
11. Color Vision <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal * Color sense must be tested by one of the following. * Color sensing lenses are prohibited.					
Pseudoisochromatic plates		Eldridge - Green Perception Lantern		SAMCTT - School of Aviation Medicine	
Divorine 2nd Edition	ARC	Farnsworth Lantern		Titmus Optical Vision Test	
AOC Revised Edition	AOC-HRR	Keystone Orthoscope		Williams Lantern	
Ishihara 16-, 24-, 38- Plate Ed		Keystone Telebinocular			
12. Hearing <input type="checkbox"/> Normal <input type="checkbox"/> Impaired					
An audiometer and speech discrimination tests are only required if the applicant has, or is suspected to have impaired hearing.					
Audiometer (Threshold Values)	500 (Hz)	1000 (Hz)	2000 (Hz)	3000 (Hz)	Functional Speech Discrimination Test at 55 db Left Ear _____% Right Ear _____%
Right Ear					
Left Ear					
Right Ear - aided					
Left Ear - aided					External Auditory Canal <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal
13. Indications of current or past Drug/Alcohol Abuse <input type="checkbox"/> Yes <input type="checkbox"/> No If yes explain in Block 16					

The Coast Guard estimates that the average burden for this is 5 minutes. You may submit any comments concerning the accuracy of this burden estimate or any suggestion for reducing the burden to: Commanding Officer National Maritime Center (NMC-4C), 4200 Wilson Blvd, Suite 510, Arlington, VA 22203-1804 or Office of Management and Budget, Office of Information and Regulatory Affairs, Attention: Desk Officer for DOT/USCG, Old Executive Office Building, Washington, DC 20593

Watchkeeping for Seafarers (STCW) endorsed as a rating forming part of a navigational watch must provide evidence that he/she meets the vision, color vision, and hearing requirements for a deck officer as set forth in reference (b). A wiper who applies for an STCW form endorsed as a rating forming part of an engineering watch must provide evidence that he/she meets the vision, color vision, and hearing requirements for an engineer officer as set forth in reference (b).

4. An applicant for entry level ratings to serve on seagoing vessels of 200 or more gross tons who does not meet the standards listed in reference (b) may be issued an MMD with appropriate limitations.

5. An applicant for entry level ratings for service on seagoing vessels of less than 200 GRT is not required to present a document attesting to his or her medical qualifications. This applicant should be advised of the employment limitations of such an endorsement. If he or she still does not want to provide a document of medical qualification, the endorsement on the MMD would read "Ordinary seaman, wiper, steward's department. May not serve on seagoing vessels of 200 or more GRT."

W. C. BENNETT
By direction

Dist: All District Commanders (m)
Commandant (G-MSO)
All MSOs/Activities
All RECs

14. Doctor's assessment - Does the applicant have or has he/she ever suffered from any of the following? *If yes explain in Block 16.					
Yes	No		Yes	No	
		Deteriorating eye disease			Severe digestive disorder
		Severe speech impediment			Chronic renal failure
		Diabetes			Communicable disease
		Thyroid dysfunction			Asthma or lung disease
		Epilepsy, seizures, paralysis			Psychiatric disorder
		Heart or vascular disease			Depression
		Heart surgery			Attempted suicide
		Blood disorder			Loss of memory
		High blood pressure			Dizziness or fainting
					Periods of unconsciousness
					Sleepwalking
					Recent or repetitive surgery
					Amputations
					Impaired range of motion
					Impaired balance or coordination
					Other illness or disability

15. Medications taken: Include dosage, purpose, and side effects.

No prescription medications ☐

16. Comments on Findings:

No Significant Medical History ☐

Considering the findings in this examination, and noting the duties to be performed by the applicant aboard a merchant vessel of the United States of America, I consider the applicant

☐ competent
 ☐ needs further evaluation
 ☐ not competent

Printed/Typed Name of Physician/Physician's Assistant/Nurse Practitioner	OFFICE ADDRESS (ZIP CODE)
State License Number	
Telephone	
Physician/Physician's Assistant /Nurse Practitioner Signature	
Date	
I certify that all information provided by me is complete and true to the best of my knowledge.	
Signature of Applicant	
Date	

The Coast Guard estimates that the average burden for this is 5 minutes. You may submit any comments concerning the accuracy of this burden estimate or any suggestion for reducing the burden to: Commanding Officer National Maritime Center (NMC-4C), 4200 Wilson Blvd, Suite 510, Arlington, VA 22203-1804 or Office of Management and Budget, Office of Information and Regulatory Affairs, Attention: Desk Officer for DOT/USCG, Old Executive Office Building, Washington, DC 20593

MARINE SAFETY MANUAL

CHAPTER 4: PHYSICAL REQUIREMENTS FOR MARINERS

A. Physical Examinations.....	4-1
B. Qualified Medical Personnel.....	4-1
C. Completing The Merchant Marine Personnel Physical Examination Report.....	4-1
D. Physical Standards	4-1
E. Unlicensed Seaman Physical Standards.....	4-1
F. Waiver Statements	4-2
1. Vision.....	4-2
a. Visual Acuity Waiver	4-2
b. Color Vision	4-2
c. Monocular Vision	4-3
2. Hearing.....	4-3
a. Decibels (dB).....	4-3
b. Standards.....	4-3
c. Hearing Aid Waivers.....	4-3
(1) Deck Department	4-3
(2) Engineering Department.....	4-3
d. Other Hearing Waivers.....	4-3
3. Mind Altering Drugs (Psychotropic Drugs).....	4-4
G. National Maritime Center Waivers	4-4
H. Medical Conditions Needing Further Review.....	4-4
1. Diabetes.....	4-4
2. Cardiac	4-5
a. History Of Myocardial Infarction(s)	4-5
b. Surgery	4-5
c. Heart Irregularity	4-6
d. Hypertension.....	4-6
(1) Original License	4-6
(2) Renewal Or Raise Of Grade.....	4-6

MARINE SAFETY MANUAL

CHAPTER 4: PHYSICAL REQUIREMENTS FOR MARINERS

A. Physical Examinations.

Merchant Marine Personnel Physical Examination Report, Form CG-719K, is submitted with the application for a license or MMD when a physical examination is required. Any questions relating to physical requirements may be directed to the National Maritime Center. Guidance to assist medical personnel in conducting these examinations is found in NVIC 2-98.

B. Qualified Medical Personnel.

Physician will be used in this chapter to mean a licensed medical doctor (including doctors of osteopathy (D.O.)), a licensed physician assistant, or a licensed nurse practitioner. The above medical personnel must be licensed by a state in the U.S., a U.S. possession, or a U.S. territory. Foreign medical licenses are not accepted. A chiropractor is not acceptable as a physician; see 46 CFR 10.205(d).

C. Completing The Merchant Marine Personnel Physical Examination Report (Form CG-719K).

One of the major concerns of an evaluator is having the CG-719K completed properly. The CG-719K must be completed and signed by a physician. The license number, the state issuing the license, the address and telephone number of the physician must be included on the CG-719K. A random number of CG-719K's should be verified with the physician to check the information on the form. If any of the notations on the form are unreadable, unknown, or omitted, a quick call to the signer may clear up any misunderstanding and verify the applicant's condition. The evaluator is responsible to ensure that the applicant provides satisfactory evidence to show that he or she meets the physical requirements of the regulations. It is the applicant's responsibility to provide the necessary medical information to evaluate the application. If the information from the physician is incomplete or unacceptable, return the CG-719K to the applicant to obtain the required information.

D. Physical Standards.

The conditions discussed in this chapter are considered to be potentially disqualifying for the purpose of obtaining a license or MMD. They are not intended to be absolute or all-encompassing. One applicant could be unqualified due to a condition not listed here, while another applicant could have a listed condition and be qualified for a waiver. Waivers may be considered where extenuating circumstances are such as to warrant special consideration.

E. Unlicensed Seaman Physical Standards.

46 CFR Part 12, Certification of Seamen, refers to 46 CFR 10.205(d) when setting standards for unlicensed seamen. The following is a list of ratings and the standards they must meet:

1. Able seamen must meet the same physical standards as a licensed master, mate, or pilot.
2. Qualified member of the engine department (QMED) must meet same physical standards as a licensed engineer.
3. Tankermen must meet the same physical standards as a licensed engineer.

F. Waiver Statements.

There is no regulation that requires the seaman to notify the REC when a physical waiver condition worsens during the license period. To prevent possible injury to the seaman and prevent a vessel from becoming unseaworthy the following statement will be placed on the license/MMD. "Any deterioration of a waived medical condition shall be immediately reported to the nearest REC." Under certain conditions OCMI's are authorized to grant waivers for the physical standards. This authorization does not prevent the OCMI from asking advice or further evaluation from NMC. Listed below are the standards for local waivers.

1. Vision.

There are two areas of concern with vision. One is the ability of the applicant to see at a distance (visual acuity) and the other is the ability to distinguish colors (color sense).

a. Visual Acuity Waiver.

Corrected visual acuity must always be at least 20/40 for deck officers and at least 20/50 for engineering officers (46 CFR 10.202(f)). All RECs are authorized to grant waivers to applicants who have an uncorrected vision no worse than 20/800 under the following conditions:

- (1) The applicant may not have a degenerative condition that would speed the deterioration of their eyesight. All applicants with diabetes must submit documentation from their doctor that the diabetes is not affecting the applicant's eyesight.
- (2) The license must contain a vision waiver notation that requires the mariner to wear the corrective lenses (contacts or glasses). A spare set of glasses (not contact lenses) must also be carried aboard the vessel for all individuals with a vision waiver.
- (3) The applicant must have 100 degrees, horizontal field of vision.
- (4) Every applicant with uncorrected vision of 20/400 to 20/800 must wear corrective lenses (contacts or glasses), and carry a spare set of glasses on their person. If glasses are worn, they must have an attached restraining device to keep them securely in place.

b. Color Vision.

The required tests for color vision are specified in the regulations and on the reverse of the Form CG-719K for deck officers. A deck officer must pass one of these prescribed tests. An exception may be made for restricted Inland routes. They may have their licenses endorsed "Vision Waiver: Restricted to daylight operation only." In granting a waiver the area (route) of operation must also be considered. If it is unreasonable to expect that the applicant would be able to comply with this restriction, additional area restrictions may be placed on the license. An example would be a license limited to a specific geographic area, e.g., "Montauk Point, N.Y. to Martha's Vineyard." The expectation is that the licensee would be able to comply with the daylight only operation.

c. Monocular Vision.

Monocular vision is the ability to see with one eye only. A person may have both eyes functioning but due to a problem, such as cross fixation (cross-eyed), they have limited or no depth perception. These cases should be referred to NMC. For raise of grade or renewal applications, monocular vision is addressed in 46 CFR 10.207(e)(3) and 10.209(d)(3), respectively.

2. Hearing.

Hearing acuity presents two concerns for the evaluator. One is the unaided hearing response to certain frequencies and the other is speech discrimination ability at 55 decibels (dB).

a. Decibels (dB).

This is a measure of the power or loudness of sound. The higher the number, the louder the sound. Someone who can hear a 20 dB sound has better hearing than someone who can only hear a 60 dB sound. Normal conversation is at 55 dB, hence the speech discrimination test at 55 dB.

b. Standards.

Hearing shall be evaluated in accordance with NVIC 2-98.

c. Hearing Aid Waiver.

(1) Deck Department.

Deck department personnel who cannot meet the above requirements may use hearing aids. Mariners with hearing aids who meet the auditory requirements of NVIC 2-98, may be granted a waiver by the OCMI. The license or MMD must show that a waiver was issued.

(2) Engineering Department.

Hearing aids may not be used to meet the auditory requirements for Engineering licenses or MMDs. Concerns in the engine room include negative effects of hearing aids around loud noises. However, in some cases, impaired hearing is no worse in the engine room than an individual with hearing protection on. Outside the machinery space, such as the control room, an individual would likely need the hearing aid to use a telephone or to respond to audible console alarms. Engineers (licensed and/or documented) must be able to hear telephone bells/buzzers, general alarm bells, and CO² sirens without aid in the engine room. A letter attesting to this ability shall be provided by the applicant from the vessels chief engineer or master. A waiver notation, if granted, shall be added to the license or MMD. Questionable cases should be referred to NMC for further review.

d. Other Hearing Waiver.

Other conditions that do not meet the situations described above may be considered for a waiver when recommended by the OCMI. Such cases will be evaluated by NMC.

3. Mind Altering Drugs (Psychotropic Drugs).

Drugs used to treat psychiatric disorders are called mind altering or psychotropic drugs. Applicants requiring these drugs are no longer automatically considered ineligible for a license or MMD. Conditions treated by psychotropic drugs are separated into two distinct categories; psychosis and/or neurosis

- a. Waivers should be considered on a case by case basis for individuals with neurotic disorders (anxiety or depression). Supporting data shall include a strong recommendation from the attending physician confirming no adverse side affects from the medication over a one year period.
- b. Waivers are not normally approved for individuals with psychotic disorders (manic depression, schizophrenia). Although a person may have demonstrated control of the condition, it is not unusual that patients feel well and decide to reduce or stop medication. They often regress without realizing it. Given the limited resources available to assist a vessel's crew (as opposed to what is available ashore), an unacceptable risk to the vessel and crew may develop. All such cases shall be forwarded to NMC for evaluation. If a determination is then made that the mariner is competent to have a waiver granted, the license/MMD shall be endorsed with the appropriate waiver statement. "Physical Waiver: This waiver is granted on the condition that there is no further degradation of your condition. Any degradation shall be immediately reported to the nearest Coast Guard Regional Examination Center."

G. National Maritime Center Waivers.

Medical conditions that are beyond the scope of the REC to evaluate shall be referred to NMC. See paragraph 4.H for a discussion of those conditions.

1. As all waiver requests are from the OCCMI and not the applicant, the applicant need not provide a letter requesting a waiver.
2. The request for a waiver should be sent directly to NMC. These requests are no longer required to be reviewed by the District offices.
3. Send only copies of the medical file and the current application package.
[REMEMBER, COPIES ONLY].

H. Medical Conditions Needing Further Review.

The following is a discussion of the medical conditions requiring further review by NMC. Although not all inclusive the medical conditions discussed cover those most frequently seen.

1. Diabetes.

A physical waiver is required for all applicants seeking an original, renewal, or upgrade of a license or MMD who have insulin-dependent diabetes or poorly controlled non-insulin dependent diabetes (see figures 4-1 and 4-2). In order to be considered for a waiver, applicants must provide thorough amplifying written information from their physician including statements covering;

- a. A brief history of the applicant's diabetes, including when the diagnosis was made;
- b. The extent of applicant's diabetes education by topics (for minimum requirements see Figure 4-1);
- c. Description of any hospitalization in the past 12 months;
- d. A description of the applicant's control of the diabetes;
- e. If insulin-dependent, the applicant's ability to monitor his/her blood glucose and adjust his/her insulin dosage;
- f. A description of any other chronic medical conditions;
- g. A list of the applicant's medications, dosage, and required dosage frequency;
- h. Length of time the applicant has been on the current dosage;
- i. Copies of the applicant's medical record entries for the past 18 months; and
- j. A copy of the laboratory report of glycosolated hemoglobin (HgbA1c), within the past 30 days. NOTE: Waivers will not be granted when test results are 10.0 and over as this indicates poor control.

2. Cardiac.

Cardiac infirmities are often beyond the scope of the RECs to handle. The list below indicates those conditions requiring further information, and most likely, a waiver. Cardiac medication is a good indicator that a significant coronary condition exists. When submitting the case for a waiver review a recent (less than 12 months old) stress test will be required.

a. History Of Myocardial Infarction(s).

Any such history must be described in the attending physician's report including "class" (class III or IV) of myocardial infarction(s).

b. Surgery.

Any cardiac surgeries, including cardiac pacemaker implant, bypass, etc., require further evaluation and thorough description(s) in order to facilitate thorough analysis by Headquarters medical staff.

c. Heart Irregularity.

Irregularity sufficient to compromise cardiac function.

d. Hypertension.

Uncontrolled hypertension or hypertension controlled by medication requiring close monitoring. Applications indicating uncontrolled hypertension or control by reserpine, guanethidine, guanadrel, methylopa, clonidine, or guanabenz must be evaluated by NMC. If the applicant's hypertension is controlled by diuretics, beta-

adrenagic blocking agents, labetalol, hydralazine, minoxidil, prazosin, captopril, or calcium slow channel blocking agents, no further evaluation is required unless additional complications are noted by the examining physician.

(1) Original Licenses.

Blood pressure higher than 150/90 regardless of treatment with medication.

(2) Renewal Or Raise Of Grade.

Blood pressure higher than 160/100 if under age 50 or 175/100 if 50 or over, on medication.

3. Physical Handicaps.

Conditions such as loss of limb or restricted motions of limb require a practical demonstration of ability. These demonstrations determine if an applicant can safely perform all duties entrusted to him/her by virtue of holding a license. The OCMI shall recommend the extent of the test to NMC for approval prior to the demonstration. If possible, an underway practical examination should be performed. The license may be approved at the local level with the OCMI imposing any necessary limitations.

a. Operator of Uninspected Towing or Passenger Vessels (OUTV, OUPV) and Master Or Mate Of Less Than 200 Gross Tons.

A practical demonstration shall include the following elements:

- (1) Handling of mooring lines.
- (2) Climbing and descending the vessel's ladder.
- (3) Reaching, handling, grasping, and lifting lifesaving and fire fighting equipment required by the vessel's COI or applicable regulations.
- (4) Donning and properly wearing a personal flotation device (PFDs); Helping passengers don PFDs; Casting ring buoys.
- (5) Properly operating fire fighting equipment.
- (6) Recovering a person who has fallen overboard.
- (7) Rendering first-aid to a person who may be unconscious or otherwise incapacitated.
- (8) Using shipboard tools to repair a mechanical breakdown.
- (9) Properly use navigation/communication equipment if applicable.

b. Deck And Engineer Officer Licenses.

A practical demonstration shall include the following elements.

- (1) Climbing and descending the ship's ladder.
- (2) Climbing and descending a Jacob's ladder.
- (3) Opening and closing watertight doors.
- (4) Exiting vessel via emergency routes.

- (5) Rowing a lifeboat.
- (6) Wearing an emergency breathing apparatus.
- (7) Reaching, handling, grasping, and lifting lifesaving and fire fighting equipment required by the vessel's COI.
- (8) Donning and properly wearing a personal flotation device (PFD) and casting ring buoys.
- (9) Deck Officers must handle mooring lines and operate winch controls.
- (10) Engineers must operate valves and related machinery control equipment.
- (11) Properly use navigation/communication equipment if applicable.

FIGURE 4-1: COMPREHENSIVE DIABETES EDUCATION PROGRAM

To include but not limited to:

1. The disease and its complications.
2. Diet management and weight control.
3. Types of insulin, characteristics and uses.
4. Storage, handling and administration of insulin.
5. Monitoring blood glucose.
6. Self-adjustment of insulin dosage in response to trends in blood glucose monitoring.
7. Effects of illness, injury, stress, heavy manual labor, exercise and other factors on diabetic control, insulin dose and diet.
8. The applicant's recognition when there is a loss of diabetic control.

FIGURE 4-2: RECOMMENDED CHECKLIST FOR DIABETES

(REC USE ONLY.) This list is for the REC to use to ensure that sufficient information is being given for the waiver. Do not send this list to the doctor.

1. Physician's statement that:

- ☐ applicant has completed a comprehensive diabetes education program.
- ☐ no hospitalizations within the last 12 months.
- ☐ applicant's diabetic control is stable.
 - ☐ has total insulin dose per day varied less than ten units up or down (e.g., total range less than 20)?
- ☐ applicant is able to maintain diabetic control by monitoring blood glucose and appropriately adjusting insulin dosage.
- ☐ copies of medical record entries for last 18 months.
 - ☐ are there at least three entries?
 - ☐ are there less than six entries?
 - ☐ the record supports the statement that the disease is stable. Any doubts refer to G-NMC-4C.
 - ☐ no evidence of other significant conditions or diabetes-related illnesses.
[NOTE: Many illnesses may not be apparently related to diabetes; any doubts refer to G-NMC-4C.]
- ☐ Test: HgbA1C within one month of waiver request.
 - ☐ within normal limits?

2. Applicant's statement that:

- ☐ no hospitalizations within the last 12 months.
- ☐ he/she is capable of maintaining diabetic control by:
 - ☐ monitoring blood glucose.
 - ☐ adjusting insulin dose and other relevant factors.

DOT-USCG

CCL-719K (Rev. 2/94)

Merchant Marine Personnel Examination Report

OMB No. 0000-0001

Privacy Act Statement

As required by 5 USC 552a(c)(3), the following information is provided when supplying personal information to the U.S. Coast Guard:

1. Authority for solicitation of the information: 46 USC 22104(a), 7101(c)-(e), 7306(a)(4), 7313(c)(3), 7317(a), 8703(b), 9102(a)(5)
2. Principal purposes for which information is used:
 - (1) To determine if an applicant is physically capable of performing shipboard duties
 - (2) To ensure that a duly licensed Physician/Physician's Assistant conducts the applicant's physical and to verify the information as needed.
3. The routine uses which may be made of this information:
 - (1) This form becomes a part of the applicant's file as documentary evidence that regulatory physical requirement has been satisfied and the applicant is physically competent to hold a merchant marine license or document.
 - (2) The information becomes part of the total license or document file and is subject to review by federal agency casualty investigators.
4. Disclosure of this information is voluntary, but failure to provide this information will result in nonissuance of a license or Merchant Mariner's Document.

Instructions for Medical Personnel

The U.S. Coast Guard requires a physical examination to determine that all holders of Coast Guard issued licenses and documents:

- Be of sound health
- Have no physical limitations that would hinder or prevent performance of duties
- Must be capable of working in cramped spaces on rolling vessels
- Maintain balance on a moving deck
- Rapidly don an exposure suit
- Step over door sills of 24 inches in height
- Open or close watertight doors that may weigh up to 56 pounds
- Pull heavy fire hoses a distance of 400 feet, and have the ability to lift fully charged fire hoses
- Must be able to climb steep stairs or vertical ladders
- In an emergency such as a vessel fire or flooding, must be able to fully participate in the firefighting and lifesaving of passengers and crewmembers
- Must be physically able to stay alert for 4 to 6 hour shifts
- Must be free from any sudden onset of a medical condition which would affect operating or working on vessels

Detailed guidelines on potentially disqualifying medical conditions may be obtained from any U.S. Coast Guard Regional Exam Center (NVIC 2-98), or by calling the National Maritime Center at (202) 493-1000. Examples of impairment that could lead to disqualification include impaired vision, color vision or hearing; poorly controlled diabetes; multiple or recent myocardial infarctions; psychiatric disorders; and convulsive disorders. In short, any condition that poses an inordinate risk of sudden incapacitation or debilitating complication, and any condition requiring medication that impairs judgement or reaction time are potentially disqualifying and will require a detailed evaluation.

Merchant Marine Personnel Examination Report

Page 2

Applicant

Name (Last, First, MI)

Date of birth (Day, Month, Year)

Social Security Number

Physical Information

Hair color

Eye color

Weight

lbs

Height

ft in

Blood Pressure

/

Distinguishing Marks

Vision

Uncorrected Vision

Corrected Vision

Field of Vision

Glaucoma Pressure Test

Right

%

Right

%

☐ Normal

Degrees

Right

Left

%

Left

%

☐ Abnormal

Left

Color Vision

☐ PASS☐ FAIL

Pseudoisochromatic Plates (Indicate the one used)

☐ Divorine - 2nd Ed☐ AOC☐ AOC Rev Ed☐ AOC - IRR☐ Ishihara 16, 24, 38 Plate Ed☐ Eldridge - Green Perception Lantern☐ Farnsworth Lantern (Falanr)☐ Keystone Ophthalmoscope☐ Keystone Telebinocular☐ SAMCIT☐ Timius Optical Vision Test☐ Williams Lantern

*Color sensing lenses are prohibited

Hearing

☐ NORMAL☐ IMPAIRED

(If checked, complete audiometer/speech test and discrimination test)

Audiometer Threshold Value	500 Hz	1000 Hz	2000 Hz	3000 Hz
Right Ear				
Left Ear				
Right Ear (aided)				
Left Ear (aided)				

Functional Speech Discrimination Test at 55 dB

Left Ear _____ %

Right Ear _____ %

Medications

List of medications (current and past), including dosage and possible side effects

☐ NO PRESCRIPTIONS MEDICATIONS

Merchant Marine Personnel Examination Report

Page 3

Medical Professional Assessment

Does the applicant have or has ever suffered from any of the following?

If YES,

Identify the condition

Date of diagnosis

Current and past prescriptions used

Limitations prognosis

No	Yes	Condition
		1. Circulatory system
		a. Heart disease (Provide stress test result)
		b. Hypertension (surgery) <i>eliminate</i>
		c. Chronic renal failure
		d. Vascular disease
		e. Blood disorder
		2. Digestive System
		a. Severe digestive disorder
		3. Endocrine System
		a. Thyroid dysfunction (Provide TSH level)
		b. Diabetes (Provide HGB results) <i>N/A</i>
		4. Infectious
		a. Communicable disease
		b. Hepatitis A, B or C
		c. HIV
		d. Tuberculosis
		5. Mental System
		a. Psychiatric disorder
		b. Depression
		c. Attempted suicide
		d. Alcohol abuse
		e. Drug abuse
		f. Loss of memory
		g. Severe speech impediment
		6. Musculoskeletal System
		a. Amputations
		b. Impaired range of motion
		c. Impaired balance/coordination
		7. Nervous System
		a. Epilepsy <i>this could be incorporated into one</i>
		b. Seizure
		c. Paralysis
		8. Respiratory System
		a. Asthma (Provide PFT results)
		b. Lung disease
		9. Other
		a. Allergies
		b. Deteriorating eye disease
		c. Dizziness or fainting
		d. Periods of unconsciousness
		e. Recent or repetitive surgery
		f. Sleepwalking
		g. Other not listed

Considering the findings in this examination, and noting the duties to be performed by the applicant aboard a vessel of the United States, I consider the applicant: Please check one

☐ Competent☐ Not competent

Name of Physician/Physician's Assistant/Nurse Practitioner/License Number/Telephone Number

Office Address

Signature of Physician/Physician's Assistant/Nurse Practitioner

Date

I certify that all information provided by me is complete and true to the best of my knowledge

Signature of applicant

Date

Merchant Marine Personnel Examination Report

Page 4